

requested. Claims 1-19 stand rejected and claims 20-25 stand withdrawn from further consideration. Applicants maintain the patentability of claims 1-25.

Claims 1-19 have been rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,102,708 to Kimura, hereinafter "Kimura," in view of U.S. Patent No. 4,915,639 to Cohn et al., hereinafter "Cohn." It is respectfully submitted that claims 1-19 are allowable over the cited references for the reasons set forth below.

Independent Claims 1, 9, and 16

The invention is directed to an electrical connector that can receive a mating connector. Further, a temperature sensor on the electrical connector is positioned to detect a temperature of the mating connector. In this manner, the temperature of the mating connector is detected when the mating connector is inserted in the electrical connector.

The cited references do not disclose or suggest all of the features of the invention as recited in the claims, as represented by claim 1 which recites "a temperature sensor on said electrical connector *positioned to detect a temperature of the mating connector when said mating connector is received in said electrical connector, said temperature sensor positioned to allow insertion and removal of said mating connector to and from said electrical connector.*"

Cohn discloses a temperature sensor bonded to an outlet that receives a plug. Cohn, therefore, *detects a temperature of the outlet* (i.e., the *non-removable portion* of the connection system). Kimura discloses a card connector for receiving a card but does not disclose a temperature sensor. Neither Kimura nor Cohn disclose or suggest the limitation of a temperature sensor on an electrical connector *positioned to detect a temperature of the mating connector* (i.e., the *removable portion* of the connection system).

The invention provides for sensing the temperature of the mating connector, which is more difficult than sensing the temperature of an electrical connector. An electrical connector is stationary (i.e., is not insertable and removable) and therefore, to sense a temperature of the electrical

connector, a temperature sensor may simply be bonded to the electrical connector (such as in Cohn). Sensing the temperature of the mating connector (e.g., an electronic card), however, is more challenging because the mating connector is insertable and removable from the electrical connector. To overcome this, the temperature sensor of the present invention is *positioned to allow insertion and removal of the mating connector to and from the electrical connector*. Neither Kimura nor Cohn disclose or suggest a temperature sensor *positioned to allow insertion and removal of the mating connector to and from the electrical connector*.

The Examiner states that the Applicant is attacking the references individually, however, for the claim to be obvious, the cited references must disclose all of the features of the claims. Applicant is arguing that neither reference discloses or suggests the recited features of the claims. For example, neither Kimura nor Cohn disclose or suggest the limitation of a temperature sensor on an electrical connector positioned to *detect a temperature of the mating connector*. Further, neither Kimura nor Cohn disclose or suggest a temperature sensor *positioned to allow insertion and removal of said mating connector to and from the electrical connector*. Moreover, the combination of Kimura and Cohn would at best result in a temperature sensor on an electrical connector that detects a temperature of the electrical connector, not a temperature of the mating connector.

Therefore, the combined references of Kimura and Cohn do not disclose or suggest the limitations of independent claims 1, 9, or 16, or any claims depending therefrom including claims 2-8, 10-15, and 16-19 and therefore they are also patentable, at least by reason of their dependency. Thus, claims 1-19 are patentable over the cited references for the reasons set forth above and Applicants respectfully request reconsideration and withdrawal of the rejection of claims 1-19 under 35 U.S.C. 103(a).

Dependent Claim 4

Claim 4 recites a temperature sensor *extending into an aperture*. Neither Kimura nor Cohn disclose or suggest a temperature sensor extending into an aperture. Kimura discloses an

aperture, but does not disclose or suggest a temperature sensor extending into the aperture. Further, Cohn discloses a temperature sensor *bonded to the electrical connector*, not a temperature sensor extending into the aperture. Therefore, neither Kimura and Cohn disclose or suggest the limitation of a temperature sensor extending into an aperture.

The Examiner states that it would be obvious to a person of ordinary skill in the art to place the temperature sensor in any position pertinent to detecting an overload. The cited references, however, only disclose *bonding* a temperature sensor to a non-removable connector. The invention, as recited in claim 4, overcomes the disadvantages of conventional systems by providing a temperature sensor that *extends into an aperture* to detect a temperature of the mating connector. Nothing in the cited references discloses or suggests how to overcome the disadvantages of prior techniques of bonding temperature sensors to connectors, thereby leaving the connectors non-removable.

The mere fact that a worker in the art could rearrange the parts of a reference to meet the terms of the claims is not sufficient support to find obviousness. The *prior art must provide a motivation or reason* for the worker in the art to make the necessary changes in the reference device. *Ex parte Chicago Rawhide Mfg. Co.*, 223 USPQ 351, 353 (Bd. Pat. App. & Inter. 1984).

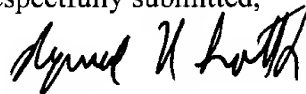
Therefore, the combined references of Kimura and Cohn do not disclose or suggest the limitations of dependent claim 4. Thus, claim 4 is patentable over the cited references for the reasons set forth above and Applicants respectfully request reconsideration and withdrawal of the rejection of claim 4 under 35 U.S.C. 103(a).

CONCLUSION

In view of the foregoing amendments and remarks, Applicant respectfully submits that the present application is in condition for allowance. Reconsideration of the application and an early Notice of Allowance are respectfully requested. In the event that the Examiner cannot allow the present application for any reason, the Examiner is encouraged to contact the undersigned attorney, Raymond N. Scott Jr. at (215) 564-8951, to discuss resolution of any remaining issues.

Attached hereto is a marked-up copy of the changes made to the claims by the current amendment. The attached page is captioned "Version with Markings to Show Changes Made".

Respectfully submitted,



Raymond N. Scott Jr.

Registration No. 48,666

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WOODCOCK WASHBURN LLP
One Liberty Place - 46th Floor
Philadelphia, PA 19103
(215) 568-3100

VERSION WITH MARKINGS TO SHOW CHANGES MADE

In the Claims:

Claims 1, 9, and 16 have been amended as follows:

1. (Twice Amended) An electrical connector system, comprising:
an electrical connector adapted to receive a mating connector; and
a temperature sensor on said electrical connector [adapted] positioned to detect a temperature of the mating connector when said mating connector is received in said electrical connector and positioned to allow insertion and removal of said mating connector to and from said electrical connector.
9. (Twice Amended) An electrical connector for an electronic card, comprising:
a header;
a frame associated with said header to guide the electronic card into engagement with said header; and
a temperature sensor associated with said frame [adapted] positioned to detect a temperature of the electronic card when said electronic card is engaged in said header, said temperature sensor and positioned to allow engagement and removal of said electronic card with and from said header.
16. (Amended) An electrical connector system for an electronic card, comprising:
an electrical connector;
a frame associated with said electrical connector;
a temperature sensor associated with said frame to detect a temperature of the mating

connector when said mating connector is inserted in said electrical connector, said temperature sensor positioned to allow insertion and removal of said mating connector with and from said electrical connector; and

a transition board, said electrical connector and said temperature sensor connected to said transition board.